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Friday Dec 13

Dear Maxine,

Thank you so much for your nice letter! Such exciting developments in the lab! Actually, I had heard of the complexing of f 1 histone with superhelical DNA. Betty Keller told me, and she had heard this from Joan Steitz. I met Joan Steitz for the first time last month. Gordon Tomkins and others were trying to recruit the Steitz's and I just happened to be passing through. Last week both of them gave a seminar at Cornell. Please send me a preprint to use for my lecture on DNA - histone interactions. Gary Felsenfeld sent me some stuff and a letter. This may be the end of my nucleic acid lectures. It's a bit silly to attempt to keep up in this field when my own work is so remote, and people like Jeff Roberts are available to do the job. The cell-free system for SV-40 DNA sounds exciting also, but I lack background information. Do you mean that LeBlanc has something comparable to our RFII replication system in phase, for example?

We're in Boston for a long weekend. A project site visit on Thursday night and Friday until 3:15 pm. Visits to the Boston Museum Friday 3:30-5:30 pm. Visit to the Gardner Museum on Thursday afternoon. Tomorrow (Saturday) another visit to Boston Museum, concentrating this time on Oriental art. Then lunch with the Kalkans. In the afternoon, perhaps a visit to Cambridge. A concert in the evening - the Boston Symphony. Sunday morning, a

visit with the Khoranas. Then, Adelard and I fly home again. It's awfully nice to see this area again — I'm almost sorry that Alan graduated, and left Harvard. Yale is O.K., but nothing great. The museum is very nice — quite the best college art gallery, but the New Haven downtown area is fairly unpleasant and Lake Place, Alans street, is run by. We do enjoy driving to Litchfield and other places outside New Haven. We enjoyed visiting in the Cannellakis home, but that is over now. So, when Alan returns to Yale, we look forward to visits, but only to see Alan.

We leave for England about Mar 15. I'll be working with Dr. Stuken, but I don't have any good ideas as to what might usefully be done in a period of 6 months. Except to catch up on plays, opera and ballet. Alan is looking for an apartment for us. (David, Monica and Jenny are O.K. and very busy).

Work in the lab is going rather well. The most exciting development concerns a reconstitution of ATPase subunits by Jeff Smith (post doc) and Paul Sternweiss (graduate student). Let me explain the background. The *E. coli* membrane ATPase, or coupling factor (CF<sub>o</sub>F<sub>1</sub>), consists of 5 subunits. The complete enzyme will reassociate with depleted membranes, adding on to specific binding sites. In this way important functions are reconstituted, such as DCCD sensitivity, oxidative phosphorylation and ATP-driven transhydrogenase reaction. Certain fractionation schemes yield a 4-subunit enzyme, which will not bind to depleted cytoplasmic membranes to reconstitute these functions. Et Racker, Nelson and others have sought to isolate the smaller ATPase subunits (R and C), keep them viable, mix them with bigger subunits and reconstitute a totally recompetent coupling factor. These efforts have not been successful. Smith and Sternweiss, with small modifications of an old Racker procedure have now succeeded. So we're in the middle of a busy and exciting field. Best to Dan. Leon